REMARKS

Reconsideration is respectfully requested in light of the foregoing Amendment and remarks that follow.

Claims 1-7 and 9-11 are before the Examiner. Claim 1 has been amended to recite a preferred doping amount. Support for the range is found in the paragraph bridging pages 1 and 2 of the specification as filed and claim 3. Claim 3 has been amended in light of the changes to claim 1. Claim 4 has been amended to indicate that the percentage is a weight percentage. This is evidently clear from the specification.

A copy of the claims allowed in Europe in the counterpart application is enclosed for completeness.

Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants respectfully traverse.

Claim 4 has been amended to include "by wt.". This should address the Examiner's concerns. Withdrawal of the rejection is respectfully requested.

Claims 1-7 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over CA 2,223,377 taken in view of Vanell (6,423,638). Applicants respectfully traverse.

Claims 1-3, 5, and 8 are directed to a narrow distribution of pyrogenically produced potassium-doped metal or metalloid oxide particles, having a BET surface between 1 and 1000 m^2/g, wherein the distribution is at least 7. The doping amount is preferably in a range from 500 to 20,000 ppm. The criticality of the claimed ranges and/or step sequence is apparent from Figures 11A -13B (Table 4 and Example 7(20% potassium dopant)). These figures should be contrasted with Figures 8A-10B (Table 3 and Example 1 (no dopant)).

It is respectfully submitted that the applied taken alone or in combination fails to establish a proper prima facie case of obviousness.

There is no teaching or suggestion in any of the references taken alone or in combination of the threshold concentration or the doping amount. These concentration correlate with the properties taught. See page 22 of the specification for a fuller explanation.

Further, the Examiner makes a number of assertions but fails to provide factual support, a rationale which would support these assertions or a declaration or an affidavit if he is relying on personal knowledge. These assertions include: "the desire of a monodispersed is well known and conventional in the art" (see last paragraph on page 3 of the Office Action); the existence of a screening process to obtain a monodipersed product from a fumed silica powder which is doped with potassium (page 4, line 1 of the Office Action); and the existence of a classification method to obtain a monodispersed product from a fumed silica powder which is doped with potassium (second paragraph on page 6 of the Office Action). These unsupported assertions are relied upon to establish a prima facie case. Without support for the assertions, a proper prima facie case has not been established. Withdrawal of the rejection is respectfully requested on these grounds alone.

The Mangold reference is equivalent to DE 196 50 500, which is cited on page 1, paragraph 2, of the instant specification. Mangold does not teach the claimed particle characteristics. There is no recognition of the criticality of claimed distribution range or of the conditions necessary to achieve it (see page 22 of the instant specification). Mangold discloses in Example 5 a method to produce doped silicon dioxide, which contains potassium as a dopant. The content of KCl taught in Example 5 is 0.5%. There is no mention of the claimed dopant amount. (The examples of the instant specification employ concentrations greater that 5%, e.g. 12.55%, 20%, are employed to obtain the claimed concentration of dopant. Concentration, e.g.

threshold concentration, is taught to be critical to the results achieved. See page 22. Further, the claimed oxygen introduction step of claim 11 is not taught by Mangold).

The secondary reference, Vanell (US 6,423,638), does not remedy the deficiencies of the primary reference noted above.

Vanell merely discloses the filtering of a colloidal silica suspension. Fumed, pyrogenic silica is not mentioned in the Vanell patent as a source material for its process. (Vanell only mentions silicon dioxide in column 15, line 45-59 as a point of comparison.) There is no disclosure in Vanell of how to adopt there method to other types of silica. Colloidal silica is not pyrogenic silica. (Colloidal silica is formed from sodium silicate directly in solution.) Please consider U.S. Patent No. 6,676,719 where differences between pyrogenic and colloidal silica are discussed in the background section. The differences include dispersibility and purity. Colloidal silica has impurities and is readily dispersible. Pyrogenic silica is "pure" but not dispersible.

If pyrogenic silica is not dispersible, it is not clear how a method of separation based on a material that is dispersible can be applied to one that is not. Some teaching would be required.

Further, the Vanell filter method only separates smaller particles from larger particles. This is not a method which narrows particle size distribution range having both large and small particles. Vanell merely achieves a separation of smaller particles from larger ones relative to the threshold value of filter. This would not result in the claimed distribution.

Vanell recognizes that various treatments can adversely affect the particle size in a colloidal suspension. (No solution is suggested other than avoidance of these treatments.) Agglomeration can occur if the colloidal suspension is allowed to sit for an extended period of time. Mixing or handling of the colloidal suspension with applied shear causes severe agglomeration. Chilling the colloidal suspension can cause agglomeration. Also, lowering pH can produce the surface charge and increase agglomeration in the colloidal suspension (see col.

16 line 11 to 19). With this as background, it would appear that Vanell's teachings are limited. Vanell would appear to recommend not to change the status of the colloidal suspension, especially to a different product like a powder or to separate the aqueous and solid phases.

Accordingly, it would appear that the combination of Mangold and Vanell is not suggested by the documents themselves- clearly distinct materials. The references even if combined are an incomplete teaching relative to the claims- required claim limitations are not taught. Further, the breadth of the distribution of particle size of at least 0.7 would not be achievable using the taught Vanell methodology and potassium doped pyrogenic silica. Evidentiary support for the Examiner's assertions relied on to support obviousness have not been provided. Accordingly, a prima facie case has not been established. Withdrawal of the rejection is requested.

Accordingly, withdrawal of the rejection is respectfully requested since a *prima facie* case has not been established. As to the product claims, the teachings of the references, taken alone or in combination, fail to teach or suggest the claim product characteristics. As to the method claims, it is not clear as to why the references would be combined. The materials involved are chemically distinct. Further, even if the references were deemed combinable, the combined teaching are insufficient to teach the invention as now claimed .

In view of the foregoing amendments and remarks, the application is believed to be in condition for allowance and a notice to that effect is respectfully requested.

Should the Examiner not find the application to be in allowable condition or believe that a conference would be of value in expediting the prosecution of the application, Applicants request that the Examiner telephone undersigned to discuss the case and afford Applicants an opportunity to submit any Supplemental Amendment that might advance prosecution and place the application in allowable condition.

Respectfully submitted,

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Claims

1. Pyrogenically produced oxides of metals or metalloids which oxides are doped by means of aerosol with potassium, characterized in that the base component is an oxide that is pyrogenically produced in the manner of flame oxidation or preferably of flame hydrolysis and is doped with potassium from more than 0.03 to 20% by wt. and the doping amount is preferably in a range of from 500 to 20,000 ppm and the doping component is a salt of potassium, and the BET surface of the doped oxide is between 1 and 1000 m^2/g and the breadth of the distribution of particle size is at least 0.7.

2. Pyrogenically produced oxides of metals or metalloids which oxides are doped by means of aerosol with potassium according to Claim 1, characterized in that the base component is an oxide that is pyrogenically produced in the manner of flame oxidation or preferably of flame hydrolysis and is doped with potassium from more than 0.03 to 20% by wt., and the doping amount is preferably in a range of from 500 to 20,000 ppm and the pH of the doped, pyrogenic oxide is more than 5, measured in a 4% aqueous dispersion, and the BET surface of the doped oxide is between 1 and 1000 m^2/g.

3. Pyrogenically produced oxides of metals or metalloids which oxides are doped by means of

aerosol with potassium according to Claim 1, characterized in that the base component is an oxide that is pyrogenically produced in the manner of flame oxidation or preferably of flame hydrolysis and is doped with potassium from more than 0.03 to 20% by wt., and the doping amount is preferably in a range of from 500 to 20,000 ppm and the absorption of dibutylphthalate does not allow any end point to be recognized, and the BET surface of the doped oxide is between 1 and 1000 m^2/g.

4. Method of producing pyrogenic oxides of metals and/or metalloids which oxides are doped by means of aerosol with potassium according to Claim 1, characterized in that an aerosol produced from a potassium salt solution and a content of potassium chloride of greater than 0.5% by weight of potassium is fed into a flame like the one used to produce pyrogenic oxides in the manner of flame oxidation or preferably of flame hydrolysis, that this aerosol is homogeneously mixed before the reaction with the gaseous mixture of flame oxidation or flame hydrolysis, then the aerosol-gaseous mixture is allowed to react in a flame and the pyrogenic, potassium-doped oxides produced are separated in a known manner from the gas flow, and a potassium salt solution containing the potassium salt serves as starting product of the aerosol and the aerosol is produced by atomization by means of an aerosol generator preferably in accordance with the two-fluid nozzle method.

5. Use of pyrogenic oxides doped with potassium by means of aerosol according to Claim 1 as filler, carrier material, catalytically active substance, starting material for producing dispersions, as polishing material (CMP applications), base ceramic material, in the electronic industry, in

the cosmetic industry, as additive in the silicon industry and rubber industry, for adjusting the rheology of liquid systems, for the stabilization of heat protection and in the paint industry.